A1 Conc.

unit **12**. Hence the coupler **68** and the test result signal **34** are synchronized to the antenna couple enable signal **170**. The capacitor **CC** acts as a coupling capacitor to remove DC energy from the test result signal **34** and couple the test result signal **34** to the antenna **50**.--

Please replace the paragraph beginning at page 28, line 23 with the following rewritten paragraph:

A2

-- An alternative embodiment for transmitting the test result signal **34** to the test unit **12** involves modulating the impedance of the antenna **50** to re-radiate an RF signal that contains the information of the test result signal **34**. Referring to Figure 27, a partial view of the test circuit **14** shows that the alternative embodiment of the coupler **68** includes synchronization and coupling features. The coupler **68** includes two transistors **QC1** and **QC2** that are connected in series. The transistor **QC2** acts as both a synchronization element and as a coupler to couple the transistor **QC1**, the impedance of which encodes the test result signal **34**, to the antenna **50**. The transistor **QC2** is controlled by the antenna couple enable signal **170** in the same fashion described for the embodiment shown in Figure 26. The test result signal **34** is used to control the transistor **QC1** which is connected such that it behaves like a resistor when enabled. When the test result signal **34** has a digital logic value of '1', the transistor **QC1** is enabled and increases the resistance of the antenna **50**. Conversely, when the test result signal **34** has a digital logic value of '0', the transistor **QC1** is disabled and the impedance of the antenna **50** returns to its original value. Since the periodic transition from a digital logic value of '1' to a digital logic value of '0' and vice-versa indicates the frequency of the test result signal **34**, the frequency of the impedance modulation of the antenna **50** encodes the frequency information contained within the test result signal **34**.--

Please replace the paragraph beginning at page 29, line 7 with the following rewritten paragraph:

A3

-- In either of the aforementioned embodiments, if the test result signal **34** were coupled to the antenna **50** without the antenna couple enable signal **170**, the test unit **12** would see a series of frequencies but would not be able to easily determine which test state the test circuit **14** is currently in. To allow for synchronization between the test unit **12** and the test circuit **14**, the sequencer **60** also switches the synchronization element **66** shown in Figure 26 or the transistor **QC2** in the coupler **68** shown in Figure 27 so that before each repetition of the test sequence, i.e. during test state 0 or 8, the coupler **68** is disabled so that no signal is radiated towards the test unit **12**. The test unit **12** may therefore synchronize to the test result signal **34** by the absence of reception of the test result signal **34** from the test circuit **14**.--

Please replace the paragraph beginning at page 29, line 28 with the following rewritten paragraph:

A4

-- Referring to Figure 28, a modification of the test circuit **14** which would allow the test circuit **14** to test a sub-circuit **180** within the IC **18** is shown. This embodiment

A4 conc.

includes the circuitry shown in Figure 7 as well as an enable transistor **QE** connected to ground **VSS**, a test signal **182** and an enable test sub-circuit signal **184**. The source voltage **VDD** which is used to power the sub-circuit **180** is provided by the voltage rectifier **52**. The power of the sub-circuit **180** is provided by the enable test sub-circuit signal **184** that grounds the sub-circuit **180**. This grounding is required because a ground path is needed before the sub-circuit **180** can be powered. This embodiment is preferable because there is a low voltage drop across the transistor **QE**. In this configuration, the sequencer **60** is modified to provide the enable test sub-circuit signal **184** as well as the test signal **182** that is used to test the functionality of the sub-circuit **180**. The test signal **182** can be used to set one or many logic states within the sub-circuit **180**. The resulting output signal of the sub-circuit **180**, i.e. the test result signal **34**, is then sent to the coupler **68**. The coupler **68** also receives the antenna couple enable signal **170** which was previously described in the alternative embodiment shown in Figure 27 (alternatively, the embodiment having the synchronization element **66** and the coupler **68** shown in Figure 26 may also be used for synchronization and coupling). The test result signal **34** may then be transmitted to the test unit **12** where the test result signal **34** may be evaluated to determine whether the sub-circuit **180** behaved correctly.--

In the figures:

Please replace original Figure 26 with the enclosed Figure 26.

In the claims:

Please add new claims 70, 71 and 72 as follows.

A5

70. The apparatus of claim 24, wherein the transmitter circuit further comprises a synchronization element to couple the ring oscillator to the coupler.

71. The apparatus of claim 51, wherein the transmitter circuit further comprises a synchronization element to couple the ring oscillator to the coupler.

72. The method of claim 63, wherein step (j) further comprises providing a synchronization element to enable and disable the coupler.